What is claimed is:

1. A system to determine a most likely position of an object, said system comprising:

a plurality of sensors each providing a location of the object with an associated sensor uncertainty distribution; and

a data processor for combining the location data from selected sensors and the associated sensor uncertainty distributions to generate a value indicative of the most likely position of the object.

2. The system of claim 1, wherein for each sensor, the associated sensor uncertainty distribution is dependent on one or more performance characteristics for the sensor.

3. The system of claim 2 further comprising a set of fuzzy logic rules applied to the one or more performance characteristics of the sensors.

4. The system of claim 2 further comprising a set of fuzzy logic rules applied to one or more parameters that effect the one or more performance characteristics and/or the sensor uncertainty distribution.

5. The system of claim 2 further comprising a neural network applied to the one or more performance characteristics of the sensors.

6. The system of claim 2 further comprising a neural network applied to one or more parameters that effect the one or more performance characteristics and/or the sensor uncertainty distribution.

7. The system of claim 1 further comprising a neural network trained for determining a sensor reliability measure.

8. The system of claim 1 further comprising a neural network trained for determining a realization measure indicative of the mean of the sensor reliability measure.

9. The system of claim 1 wherein the location data from each sensor and the associated sensor uncertainty distribution are used to determine a probability distribution for a position of the object.

10. The system of claim 9 wherein each probability distribution for the position of the object includes a value indicating a likely position of the object.

11. The system of claim 9 wherein each probability distribution for the position of the object is segmented into a plurality of sub-ranges.

12. The system of claim 11 wherein each sub-range has an associated probability value indicative of the likely position of the object within the sub-range.

13. The system of claim 11 wherein parameters affecting sensor uncertainties are manipulated by a conditional probability rule to determine a posteriori conditional probability distribution for each sub-range.

14. The system of claim 9 wherein all the probability distributions for the position of the object have common sub-ranges.

15. The system of claim 1 wherein a conjunctive fusion method is applied to a plurality of parameters affecting sensor reliability, said method providing an estimation of intersection points of probability measures by identifying the sub-range with the most likely probability of defining the object's position.

16. The system of claim 1 wherein

each sensor indicates a likely position of the object;

each sensor yields an associated probability distribution for the position of the object; and

each probability distribution for the position of the object is segmented into a plurality of sub-ranges, said sub-ranges being applied to each probability distribution for the position of the object.

17. The system of claim 16 wherein for each sub-range, the probability values associated with each sensor are manipulated using statistical means to generate a value indicative of the most likely position of the object and an associated probability distribution for the most likely position of the object.

18. The system of claim 1 for optimizing the separation distance between objects.

19. The system of claim 1 for tracking the relative location of a plurality of objects.

20. The system of claim 1 wherein the sensor comprises a plurality of radar systems.

21. The system of claim 1 wherein the sensor comprises a plurality of beacon systems.

22. A system to determine a global position of an object, said system comprising a plurality of local systems as described in claim 1 with each local system providing a value indicative of the most likely position of the object.

23. The system of claim 22 wherein each local system provides a probability distribution for the most likely position of the object.

24. A method to determine a most likely position of an object, said method

receiving location data and uncertainty distributions from a plurality of sensors;

combining the location data and uncertainty distributions to generate a value indicative of the most likely position of the object; and

combining the location data and uncertainty distributions to generate a probability distribution for the most likely position of the object.

25. The method of claim 24 comprising

a plurality of sensors, each sensor indicating a likely position of the object and each sensor yielding an associated probability distribution for the position of the object;

segmenting each probability distribution for the position of the object into a plurality of sub-ranges, said sub-ranges being identically applied to each probability distribution for the position of the object; and

each sub-range having a probability value and an associated probability distribution for the position of the object.

26. The method of claim 25 using statistical means to manipulate the associated probability values for each sub-range and generating a value indicative of the most likely position of the object.

27. The method of claim 25 using statistical means to manipulate the associated probability values for each sub-range and generating a probability distribution for the most likely position of the object.

28. A method to determine a global position of an object, said method receiving from a plurality of local systems, data on the most likely position of the object.

29. The method of claim 28 receiving, from a plurality of local systems, the probability distribution for the most likely position of the object.